Planned Projects

Some of the recommended improvements will be funded through the District's Capital Improvement Program (CIP). These projects are described in the 2003 Revision to the RLECWD Master Plan and include:

Wells:

Replace existing wells over time due to age and condition that will also provide increased system capacity for new customers (installing new larger wells at existing or nearby sites). To provide increased system capacity for new customers install new wells, each well nominally 1,500 gallons per minute capacity. Locate new wells either by expanding the existing site or by acquiring a new site in the vicinity of the existing well. If groundwater conditions are such that it is not possible to achieve 1,500 gpm at wells, then a larger number of wells of smaller capacity will be needed.

Equip each well with a constant speed or variable speed motor and pump, which would provide a discharge pressure to the system of 60 psi. Each well would include a hydro-pneumatic tank to prevent short cycling, a pipeline to the distribution system, appropriate valves and backflow prevention, electrical controls for pump operation, and a disinfection treatment system. Each well site will have a fenced enclosure and a low maintenance yard, such as pavement or gravel. Noise and air quality requirements at the well sites should also be considered in the well design as required by local ordinances and regional air quality codes. In addition, the well design should consider applicable requirements for waste discharge. Some wells may need arsenic or radon treatment.

Provide permanent emergency energy backup during power outages with capacity to minimally meet the maximum day demand. The emergency backup system may be a backup direct drive engine, fuel tank, and a controller that senses a voltage drop and starts the backup motor. An alternative power supply, on-site generation, and sale of excess power to the grid could be used by the District where well sites are suitable for the facilities. These facilities would be natural gas fired, have redundant generation capability, and allow the utility grid to act as another backup power supply. At build-out, a minimum of 60 percent of the well sites (18 out of 30 wells) should have a permanent emergency backup system. In the near-term, all wells should be constructed with a permanent emergency backup system. As the number of wells increases over the long-term, the need for a permanent emergency backup system should be evaluated on a case-by-case basis depending on the well location, its proximity to other wells with backup, and the power grid serving the well.

Pipeline Improvements

Proposed pipeline improvements are sized for build-out demands. The recommended system configuration continues the current mode of providing supply from a dispersed network of well locations.

Participate in sharing a regional transmission pipeline for surface water through yet to be developed agreements. The transmission system would convey large flows to North Central Sacramento County water suppliers from concentrated supply points such as the proposed Sacramento River Diversion in northern Sacramento County. This project would support the District development of capabilities to deliver PF-8 water and allows possible future use of surface water in lieu of or in conjunction with groundwater

Table 14 - Planned Water Supply Projects

Project Name	Normal Supply to RLECWD AFPY	Project start and completion years	Dry year and Multiple Dry Year Supply to RLECWD
Replace existing wells and install new wells to meet growing demand	850 850 2,550 5,950 11,000	2006 2007-2010 2010-2015 2015-2025 2025-2035	Not effected by dry years
Storage tank 2 million gallons	No effect	2005-2010	Not effected by dry years
Well head treatment for arsenic removal	No effect	2007-2010	Not effected by dry years
Regional Pipeline for Surface Water including wholesale connections with SSWD	5,000	2010-2015	Per WFA, available only during winters of dry years and may decline to zero AF

The potential water supply from the regional pipeline is still under discussion. Dry year delivery conditions have not yet been defined. Therefore the volume of water available to RLECWD during normal and dry years cannot be provided in the 2005 UWMP with much certainty. The information should be available for the 2010 UWMP.

Figure 8 - Map of Recommended Future RLECWD Water Supply Facilities